

ABSTRACT

A method for accumulating drugs or other chemicals within synthetic, lipid-like vesicles by means of a pH gradient imposed on the vesicles just prior to use is described. The method is suited for accumulating molecules with basic or acid moieties which are permeable to the vesicles membranes in their uncharged form and for molecules that contain charge moieties that are hydrophobic ions and can therefore cross the vesicle membranes in their charged form.

The method is advantageous over prior art methods for encapsulating biologically active materials within vesicles in that it achieves very high degrees of loading with simple procedures that are economical and require little technical expertise, furthermore kits which can be stored for prolonged periods prior to use without impairment of the capacity to achieve drug accumulation are described.

A related application of the method consists of using this technology to detoxify animals that have been exposed to poisons with basic, weak acid or hydrophobic charge groups within their molecular structures.